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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,258	06/09/2000	Mark Leach	12900-0100	2469

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EXAMINER

LEE, CHRISTOPHER E

ART UNIT	PAPER NUMBER
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2189

DATE MAILED: 03/31/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

Office Action Summary

Application No.

09/591,258

Applicant(s)

LEACH, MARK

Examiner

Christopher E. Lee

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 20 February 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the Response filed on 20th of February, 2003. No claims has been amended; claims 1-11 have been canceled; and claims 12-21 have been newly added. Currently, claims 12-21 are pending in this application.

Claim Objections

2. Claim 13 is objected to because of the following informalities: In the newly added claim 13, the claim recites the preamble "the plurality of different communication mediums are selected from the group" with a closed transitional phrase "consisting of". However, the specification and the Response REMARKS shows the claim 13 should apply an open transitional phrase to the preamble in light of the specification (See Application, page 7, lines 19-21) and the Applicant's allegation (See Response, page 7, lines 1-2) in the Response. Appropriate correction is required. The Examiner changes the transitional phrase from the closed transitional phrase "consisting of" to the open transitional phrase "including" for the purpose of the claim rejection based on a prior art.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the newly added claim 13, the claim recites the subject matter "infrared waves", which was not described in the specification (See Application, page 7, lines 18-21). The specification was describing a subject matter "IrDA interface" (See Application, page 7, line 8), but the subject matter "IrDA interface" cannot be

interpreted as anything related with the subject matter "infrared waves", which is one of a plurality of communication mediums (See newly added Claim 13) because the subject matter "IrDA interface" is only for the purpose of reprogramming a non-volatile memory remotely (See Application, page 7, lines 5-9).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims 14-19 recite the subject matter "the input signal" in line 1 of each claim, respectively. There is insufficient antecedent basis for this subject matter in the claims. Therefore, the term "the input signal" could be considered as --an input signal-- because it is not clearly defined in the claims, for the purpose of the claim rejections based on a prior art.

And, the claim 14 recites the subject matter "the utility status" in line 4. There is insufficient antecedent basis for this subject matter in the claim. Therefore, the term "the utility status" could be considered as --a utility status-- because it is not clearly defined in the claims, for the purpose of the claim rejection based on a prior art.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough et al. [US 5,031,209; hereinafter Thornborough] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1].

Referring to claim 12, Thornborough disclose a system (i.e., automatic meter reading 10 of Fig. 1) for monitoring and transmitting utility status (See col. 4, line 51 through col. 5, line 2 and col. 6, lines 62-68) via a universal communications interface (i.e., FSK BELL transmitter 53, FSK CCITT transmitter

54, line 61, buffer 62 and MUX 55 of Fig 3 as combined), comprising: an input interface (i.e., transducer circuit 252 of Fig. 6) operative to receive a utility status signal (i.e., meter pulses 246 and lead line status 247 of Fig. 6) from a utility meter (i.e., utility meter 250 of Fig. 6); a processor (i.e., micro-computer 22 of Fig. 1) functionally coupled to said input interface for receiving said utility status signal from said input interface (See col. 5, lines 7-11 and 20-24) and operative to generate a status message (i.e., Transmitted Data to Call Collection Module; See col. 16, lines 10-15 and 29-40) based on said utility status signal; a universal communications interface (i.e., FSK BELL transmitter 53, FSK CCITT transmitter 54, line 61, buffer 62 and MUX 55 of Fig 3 as combined) functionally coupled to said processor (See col. 6, lines 51-55), and configurable for communicating with a communication device (i.e., telephone modem) operative to communicate with a receiving device (i.e., computer of utility control center; See col. 4, lines 29-49) via a communication medium (i.e., telephone line; See col. 1, lines 19-25).

Thornborough does not teach said universal communications interface is configurable for communicating with a plurality of different types of communication devices, each different type of communication device operative to communicate with a receiving device via one of a plurality of different communication mediums; and a slot functionally coupled to said universal communications interface and configured to interchangeably connect one of said plurality of different types of communication devices.

Schnell discloses a universal communications interface (i.e., network system in Fig. 2A), wherein said universal communications interface is configurable for communicating with a plurality of different types of communication devices (See col. 5, lines 18-49; configurable for Ethernet, Token Ring, VG, ARCnet, FDDI, CDDI, ATM, etc.), each different type of communication device operative to communicate with a receiving device (i.e., other device being coupled to Network; See col. 1, lines 54-57) via one of a plurality of different communication mediums (i.e., conductive wire, fiber optic cable, etc.; See col. 6, lines 20-22); and a slot (i.e., slots 202a-l in Fig. 2A) functionally coupled to said universal

communications interface (See col. 6, lines 35-45) and configured to interchangeably connect one of said plurality of different types of communication devices (See col. 6, lines 24-28; i.e., wherein in fact that the slot connectors are configured to plug into the slots of the bus to enable communication implies that said slot is configured (i.e., slot connector is configured for said communication) to interchangeably (i.e., capable of being interchanged) connect (i.e., inserted into slot) one of said plurality of different types of communication devices (i.e., any one of devices for Ethernet, Token Ring, VG, ARCnet, FDDI, CDDI, ATM, etc.)); wherein a processor (i.e., computer system 116 of Fig. 1) communicates with said universal communications interface (See col. 5, lines 18-30) to determine which one of said plurality of different types of communication devices is connected to said slot (See col. 5, line 66 through col. 6, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said universal communications interface (i.e., network system), as disclosed by Schnell, in said system, as disclosed by Thornborough, so as to communicate to multiple network devices (See Schnell, Fig. 1) with the advantage of enabling management of a plurality of network devices of said universal communications interface (i.e., network system). Refer to Schnell, col. 2, lines 49-51.

Thornborough, as modified by Schnell, does not expressly teach said processor formats said status message into a format compatible with said connected communication device and transmits said formatted status message to said universal communications interface for transmission to said connected communications device.

Segur discloses a multi-format communications client-server 50 (Fig. 2), wherein a processor (i.e., controller and processor 68 in Fig. 2) formats (i.e., converts) a status message (i.e., selected messages) into a format compatible (i.e., convert the messages to appropriate data format; See block 178 in Fig. 6 and col. 2, lines 47-50) with a connected communication device (i.e., a subscriber unit generating the message retrieval query; See Claim 1) and transmits said formatted status message to a universal communications interface (i.e., communications interfaces 66 of Fig. 2) for transmission to said

connected communications device (i.e., transmit to the subscriber unit; See block 180 in Fig. 6 and col. 3, lines 62-65; i.e., wherein in fact that once the conversion is complete, the messages are transmitted to the subscriber unit implies that said processor (i.e., controller and processor) transmits said formatted status message to said universal communications interface (i.e., communications interfaces) for transmission to said connected communications device (i.e., subscriber unit)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said features of said controller and processor, as disclosed by Segur, in said processor, as disclosed by Thornborough, as modified by Schnell, for the advantage of providing a message formatting (i.e., format conversion feature) for said universal communication interfacing (i.e., multi-format communications), such that said processor (i.e., controller and processor) formats (i.e., converts) said status message (i.e., message) in a compatible format with a data format of said connected communication device (i.e., subscriber unit), and transmits it to said connected communication device (i.e., subscriber unit). Refer to Segur, Abstract and Claim 1.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claim 12 above, and further in view of Cosentino et al. [US 6,290,646 B1; hereinafter Cosentino].

Referring to claim 13, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claim 13 including said plurality of different communication mediums are selected from the group including telephone lines (See Thornborough, telephone interface circuit 42 of Fig. 1), cable lines (i.e., Ethernet cable; See Schnell, col. 5, lines 37-38), fiber optic lines (i.e., FDDI; See Schnell, col. 5, line 39) except that does not teach the group including radio frequency waves, infrared waves, satellite links, and power lines.

Cosentino discloses a microprocessing system 24 (Fig. 5), wherein a various communication mediums may be utilized such as a group including radio frequency waves (See col. 7, lines 17-20), infrared waves (See col. 7, lines 34-36), satellite links (See col. 7, lines 33-34), and power lines (See col. 7, lines 44-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said group of communication mediums, as disclosed by Cosentino, in said group of communication mediums, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing the capability of transmitting said status message (i.e., data) without the need for any special wiring (See Cosentino, col. 7, lines 42-44).

10. Claims 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claim 12 above, and further in view of Turino et al. [US 5,994,892 A; hereinafter Turino].

Referring to claim 14, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claim 14 except that does not teach an input signal comprises an analog wave form; and wherein said input interface comprises an analog-to-digital converter operative to convert said analog wave form into a digital signal representing a utility status.

Turino discloses a direct read circuitry (See col. 6, lines 65-67) in an automatic utility meter (Fig. 12), wherein an input signal (i.e., sampled input power) comprises an analog wave form (See col. 7, lines 25-28); and wherein an input interface (i.e., A/D U4 of Fig. 12) comprises an analog-to-digital converter (See col. 17, lines 41-55) operative to convert said analog wave form into a digital signal representing a utility status (See col. 7, lines 29-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct read circuitry, as disclosed by Turino, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing a capability of performing power usage calculation (See Turino, col. 13, lines 60-65).

Referring to claims 17 and 18, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claims 17 and 18, respectively, except that does not teach an input signal is received from a voltage monitor and a current monitor of said utility meter.

Turino discloses a direct read circuitry (See col. 6, lines 65-67) in an automatic utility meter (Fig. 12), wherein an input signal is received from a voltage monitor (i.e., voltage transformer) of said utility meter, and an input signal is received from a current monitor (i.e., current sensor) of said utility meter (See col. 7, lines 12-28; i.e., wherein in fact that a voltage transformer and a current sensor are the two devices used to achieve voltage and current reduction, and the meter shall sample secondary side sinusoidal voltage and current analog waveforms for conversion to digital values implies that said input signal is received from said voltage monitor (i.e., voltage transformer) and said current monitor (i.e., current sensor) of said utility meter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said direct read circuitry, as disclosed by Turino, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing a capability of performing power usage calculation (See Turino, col. 13, lines 60-65).

11. Claims 15, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claim 12 above, and further in view of Davis [US 6,118,269 A].

Referring to claims 15, 16 and 19, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claims 15, 16 and 19, respectively, except that does not teach an input signal is received from a connect/disconnect monitor, a tamper detection monitor, and an outage notification monitor of said utility meter.

Davis teaches an electric meter tamper detection circuit (Fig. 7), wherein an input signal is received from a connect/disconnect monitor of a utility meter (i.e., METER in Fig. 7; See col. 12, lines 10-21; i.e.,

wherein in fact that while the gateway is coupled to the power meter, the voltage drop across the power meter is relatively small, and when the gateway is unconnected, the voltage is increased, then the monitored indication of coupled/uncoupled of the power meter is provided to a microprocessor implies that said input signal is received from said connect/disconnect monitor), an input signal is received from a tamper detection monitor of said utility meter (See col. 2, lines 42-61), and an input signal is received from an outage notification monitor of said utility meter (See col. 13, lines 41-44; i.e., wherein in fact that the system supports outages detected by the network controller (viz., the function of outage notification) when a gateway fails to respond to a poll (i.e., monitoring) implies that said input signal is received from said outage notification monitor of said utility meter).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said electric meter tamper detection circuit, as disclosed by Davis, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of providing said system capable of detecting electrical meter tampering which will eliminate false tamper alert, and of notifying a remote headend if and when an electrical meter has been removed (See Davis, col. 2, lines 37-41).

12. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornborough [US 5,031,209] in view of Schnell [US 6,199,133 B1] and Segur [US 6,212,550 B1] as applied to claim 12 above, and further in view of Curt et al. [US 6,360,177 B1; hereinafter Curt].

Referring to claim 20, Thornborough, as modified by Schnell and Segur, teaches all the limitations of the claim 20 including a memory storage (i.e., ROM of microcomputer memory) functionally coupled to said processor for storing computer-executable instructions (i.e., operating program) executed by said processor (See Thornborough, col. 5, lines 16-20) except that does not teach said computer-executable instructions cause said processor to determine whether said utility status signal exceeds a threshold value and, if so, to generate said status message.

Curt discloses a monitoring unit (Fig. 4) in a voltage scanning, measurement, storage and reporting device, wherein computer-executable instructions (See col. 6, lines 6-16 and col. 24, lines 28-35) cause a processor (i.e., digital microprocessor 435 of Fig. 4) to determine whether a utility status signal (i.e., voltage waveform information) exceeds a threshold value (See col. 17, line 65 through col. 18, line 5) and, if so, to generate a status message (See col. 13, lines 20+).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said monitoring unit, as disclosed by Curt, in said system, as disclosed by Thornborough, as modified by Schnell and Segur, for the advantage of monitoring said utility status signal (i.e., AC input voltage) provided through said utility meter (i.e., outlet; Curt), and analyzing the monitored waveform (See Curt, col. 2, lines 17-24).

Referring to claim 21, Thornborough, as modified by Schnell, Segur and Curt, teaches said memory storage (i.e., RAM of microcomputer memory; Thornborough) stores data relating to signal formats compatible with each of said plurality of different types of communication devices (See Segur, Abstract; i.e., wherein in fact that the memory stores a number of messages in a number of communication format implies that the combined apparatus (i.e., said system) has said memory, which stores data (i.e., message) relating to signal formats (i.e., communication format) compatible with each of said plurality of different types of communication devices (i.e., a number of communication format)).

Response to Arguments

13. Applicant's arguments with respect to claims 11-21 have been considered but are moot in view of the new ground(s) of rejection.

In response to the Applicant's argument with respect to the newly added claims 11-21, the Examiner brought Schnell [US 6,199,133 B1], Segur [US 6,212,550 B1], Cosentino et al. [US 6,290,646 B1], Davis [US 6,118,269 A], and Curt et al. [US 6,360,177 B1] references in the rejection for the limitations which are not provided by Thornborough et al. [US 5,031,209], Turino et al. [US 5,994,892]

A], and all of the other art cited (See the instant Office Action, Paragraphs 8-12, claim 12 rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell and Segur, claim 13 rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell, Segur and Cosentino, claims 14, 17 and 18 rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell, Segur, and Turino, claims 15, 16 and 19 rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell, Segur and Davis, and claims 20 and 21 rejection under 35 U.S.C. 103(a) as being unpatentable over Thornborough in view of Schnell, Segur, and Curt).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure..

In regard to Tele-metering, Knight et al. [US 5,852,658 A] discloses remote meter reading system.

In regard to Monitoring System, Handley et al. [US 6,215,405 B1] discloses programmable temperature sensor for security system.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 703-305-5950. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Christopher E. Lee
Examiner
Art Unit 2189

CEL/ *CEL*
March 25, 2003


MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
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